Transmission Siting & Renewable Energy in Montana

Partners

- Madison County – *cooperating agency for MSTI*
- Sonoran Institute
- Craighead Institute
- Future West
- Renewable Northwest Project
- Western Environmental Law Center
- Headwaters Economics
- Photo Science

Project Goals

- Overarching:
  - Demonstrate a *Smart from the Start* approach for transmission siting that balances renewable energy generation and associated transmission with the protection of community values, the local economy, and the environment.
  - Provide a greater context and a framework for transmission siting by discussing renewable energy development and transmission grid constraints.

Project Goals

- Site-Specific
  - Provide the best available data and information to Madison County so they can make informed comments on the MSTI routing alternatives as well as any future line that may be proposed through the county.
  - Provide a 3rd party assessment of the siting process and routing alternatives with a focus on community values.
  - Provide a proof of concept of the EPRI Siting Methodology to improve transparency and provide a clear framework for stakeholder input and value weighting.

Task: Siting Methodology

Georgia Transmission Line Siting Model **Used to Identify Alternative Corridors**

Last Revised: 02/23/04

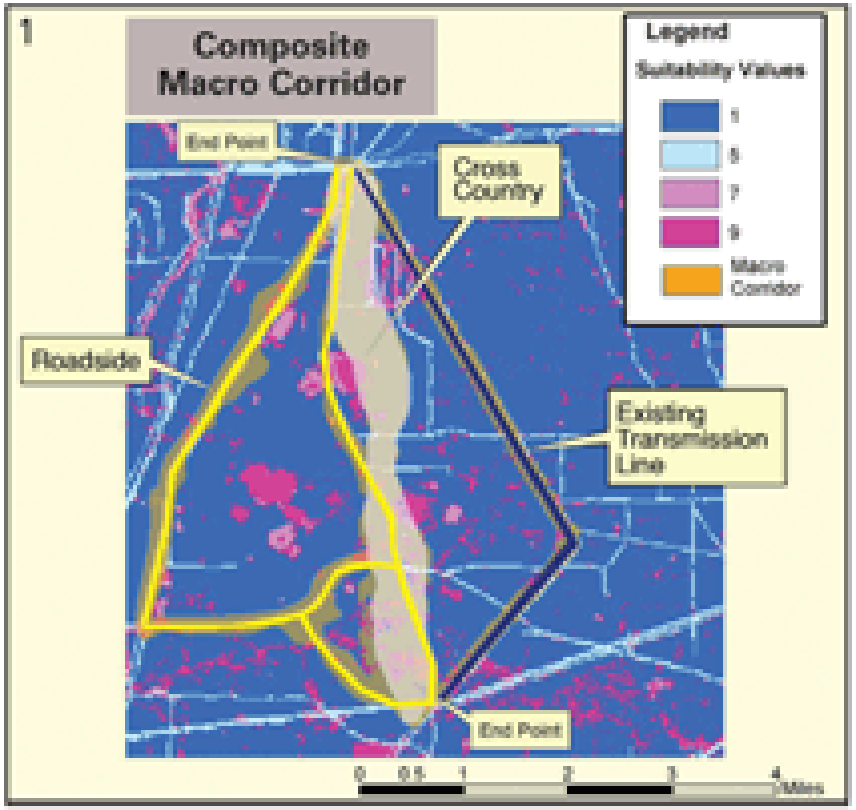
Engineering		Natural Environment		Built Environment		AVOIDANCE AREAS
Linear Infrastructure	**48.3%**	**Floodplain**	**6.2%**	**Proximity to Buildings**	**11.5%**	Listed Archaeology Sites
Rebuild Existing Transmission Lines	1	No Floodplain	1	> 1200	1	Listed NRHP Districts and Buildings
Parallel Existing Transmission Lines	1.4	100 Year Floodplain	9	900-1200	1.8	Eligible NRHP Districts
Parallel Roads ROW	3.6	**Streams/Wetlands**	**20.9%**	600-900	2.6	Airports
Parallel Gas Pipelines	4.5	No Streams/Wetlands	1	300-600	4.2	EPA Superfund Sites
Parallel Railway ROW	5	Streams < 5cfs+ Regulatory Buffer	5.1	0-300	9	Non-Spannable Waterbodies
No Linear Infrastructure	5.5	Non-forested Non-Coastal Wetlands a+ 30' Buffer	6.1	**Eligible NRHP Historic Structures**	**13.9%**	State and National Parks
Future GDOT Plans	7.5	Rivers/Streams > 5cfs+ Regulatory Buffer	7.4	>1500	1	Military Facilities
Parallel Interstates ROW	8.1	Non-forested Coastal Wetlands + 30' Buffer	8.4	0 - 1500	9	City and County Parks
Road ROW	8.4	Trout Streams (50' Buffer)	8.5	**Building Density**	**37.4%**	Mines and Quarries
Scenic Highways ROW	9	Forested Wetlands + 30' Buffer	9	0 - 0.05 Buildings/Acre	1	Day Care Parcels
Slope	**9.1%**	**Public Lands**	**16.0%**	0.05 - 0.2 Buildings/Acre	3	Cemetery Parcel s
Slope 0-15%	1	No Public Lands	1	0.2 - 1 Buildings/Acre	5	School Parcels (K-12)
Slope 15-30%	5.5	WMA - Non-State Owned	4.8	1 - 4 Buildings/Acre	7	Church Parcels
Slope >30%	9	Other Conservation Land	8.3	4 - 25 Buildings/Acre	9	USFS Wilderness Area
Intensive Agriculture	**42.6%**	USFS	8	**Proposed Development**	**6.3%**	Wild/Scenic Rivers
No Intensive Agriculture	1	WMA - State Owned	9	No Proposed Development	1	Areas of Ritual Importance
Fruit Orchards	5	**Land Cover**	**20.9%**	Proposed Development	9	Wildlife Refuge
Pecan Orchards	9	Open Land (Pastures, Scrub/Shrub, etc…)	1	**Spannable Lakes and Ponds**	**3.8%**	Buildings + Buffer
Center Pivot Agriculture	9	Managed Pine Plantations	2.2	No Spannable Lakes or Ponds	1	
		Row Crops and Horticulture	2.2	Spannable Lakes and Ponds	9	
		Developed Land	6.5	**Major Property Lines**	**8.0%**	
		Hardwood/Mixed/Natural Coniferous Forests	9	Edge of field	1	
		Wildlife Habitat	**36.0%**	Landlots	7.9	
		No Sensitive Wildlife Habitat	1	No Major Property Lines	9	
		Species of Concern Habitat	3	**Land Use**	**19.1%**	
		Natural Areas	9	Undeveloped	1	
				Non-Residential	3	
				Residential	9	

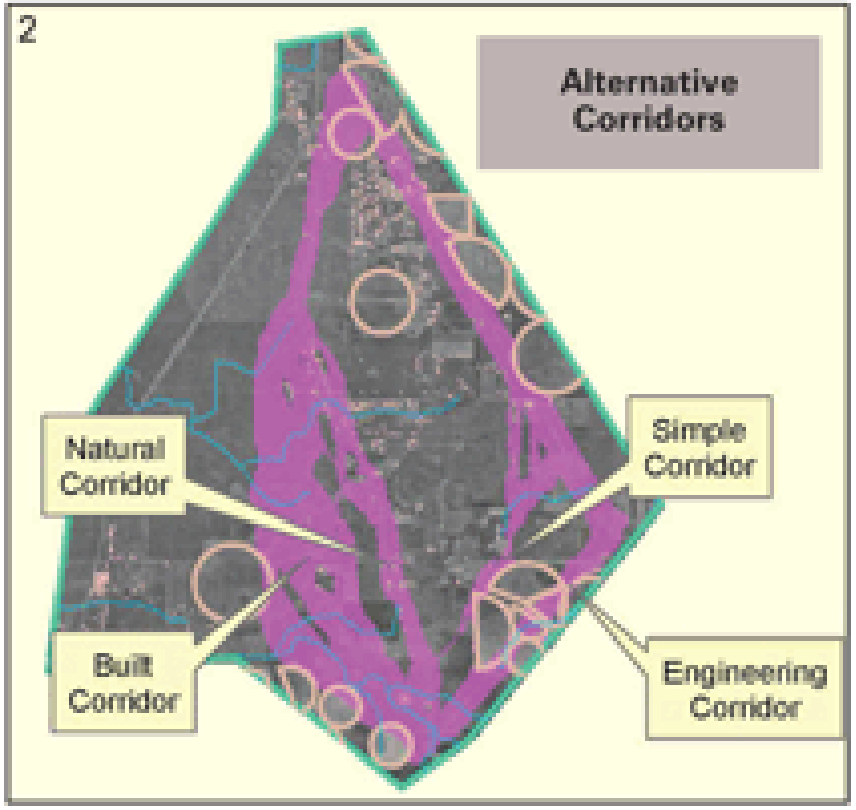
Task: Develop Montana Model

Work in Progress

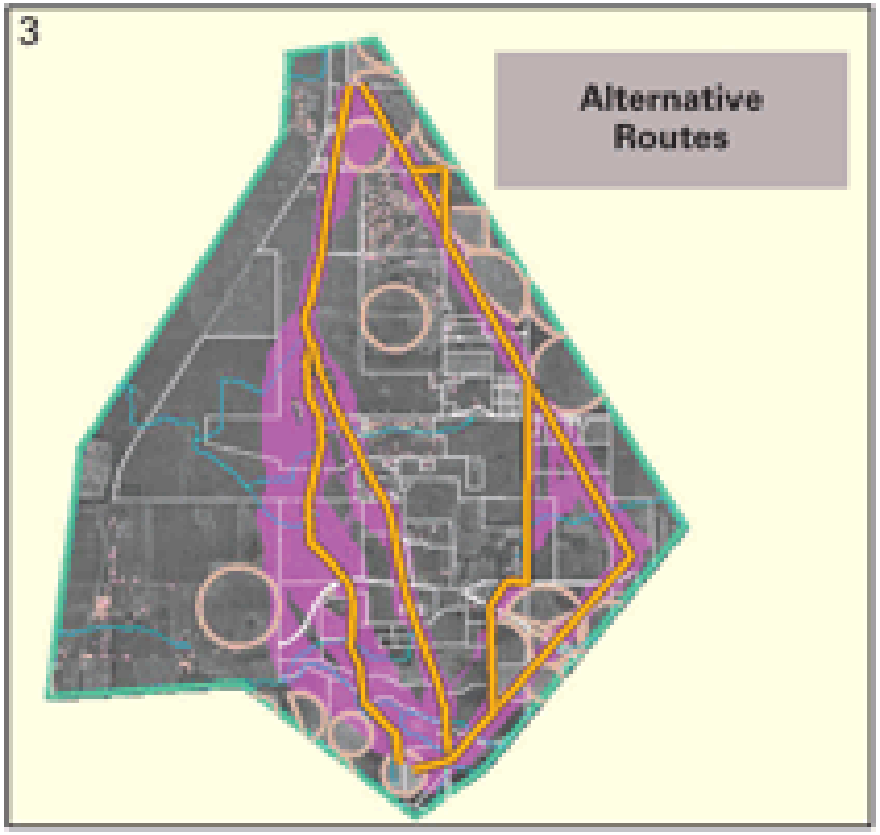
- Recreation
- Hunting and fishing
- Wildlife
- Agriculture
- Economy
- Cultural
- Lewis and Clark Trail
- State camping areas

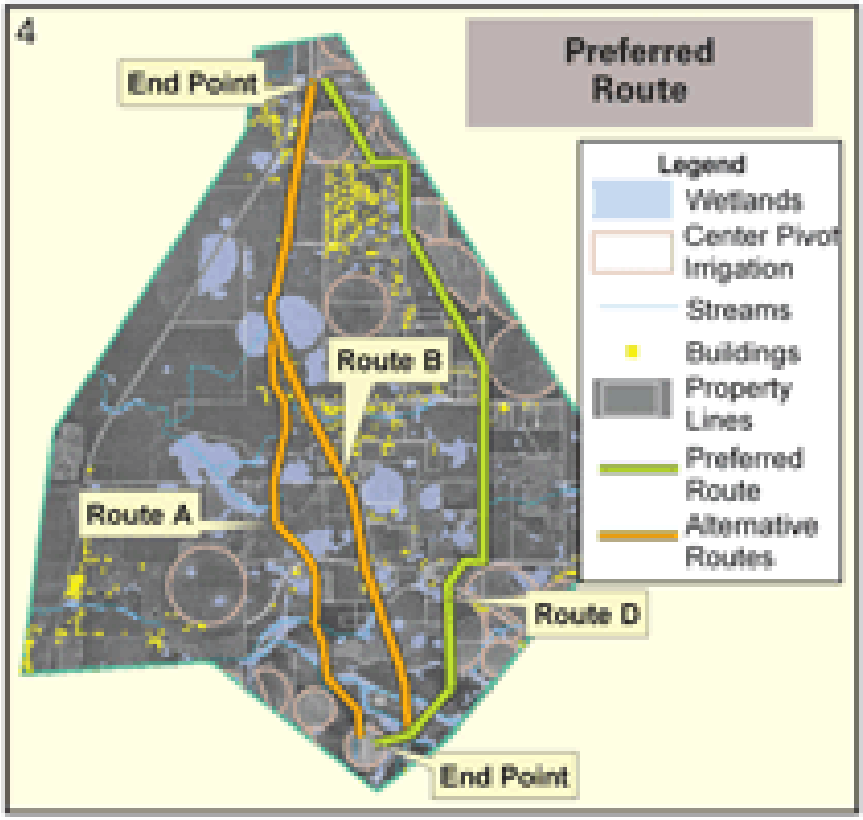
Task: Siting Methodology





Task: Siting Methodology





- Note of caution: this is a proof of concept and only one tool for input.

Tasks: Outreach

- Adjacent counties: Beaverhead, Clark (ID), Silver Bow
- Groups: Henry's Fork Challenge
- BLM
- Northwestern
- MOVE MSTI
- MSU

Task: Economic Analysis

- Revenue generation for counties
- Overall economic policy framework for both transmission and wind energy
- Land value impact analysis

Work Products

- Powerpoint presentation for outreach to stakeholders and interested companies
- Appendix of information used, assumptions, and brief report
- BMPs and siting guidelines
- Possible Recommendations
  - Statewide stakeholder process
  - Economic – revenue sources
  - Exploration of wind energy industry in MT and ways to provide support for wind that is sited in a Smart from the Start approach

Opportunities

- Draft MT model for future use and recalibration at the macro or routing level
- Mirror WECC SPSG/EDTF process at the regional scale as a pilot, including the WGA Wildlife Corridor Initiative
- March 1st Georgia stakeholder workshop to recalibrate the EPRI-GTC Siting Model
- Raise awareness of the connection between wind energy development and the need for Transmission
- 3rd Party assessment and input could provide validation in certain instances
- Introduction of *Smart from the Start* concept into public discourse

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